

superior cervical ganglion in a young cock hindered the growth of these erectile appendages. This fact, that extirpation of a sympathetic ganglion arrested the nutrition of an organ, was in flagrant opposition with Cl. Bernard's discoveries in regard to the functions of the sympathetic. M. Legros, therefore, thought to explain it by attributing a different vitality to erectile from that of other tissues. But anatomical examination shows that, even in the adult, the small superior cervical ganglion is *very closely joined to the glosso-pharyngeal nerve*, and cannot be removed without damage to this nerve. It is, therefore, altogether improbable that in the young animal this ganglion can be removed without destroying the nerve also. Under these circumstances, Legros practically only performed on birds the same experiment as M. Laffont made on mammals; he destroyed the vaso-dilator nerves, and thus abolished the principal function of the erectile tissues.

It also happened that Nuchon, experimenting, at nearly the same time as Legros, on the adult animal, in whom the ganglion is more distinct and can with care be separated without too serious damage to the nerve, obtained results contradicting those of the latter observer.

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THE VASO-DILATORS OF THE BUCCO-LABIAL REGION.—At the session of the Soc. de Biologie, October 24th (rep. in *Gaz. des Hôpitaux*, 1880, No. 126), M. Laffont recalled that he had reported to the society the fact that the vaso-dilator fibres contained in the trigeminus did not arise from the nucleus of origin of that nerve, but were merely acquired fibres, the origin of which is still unknown.

Nevertheless, in a note to the Acad. des Sciences, August 16th, MM. Dastre and Morat had accused MM. Jolyet and Laffont, of considering the fifth nerve as a typical vaso-dilator. In the same note, these physiologists claim to have discovered the origin of the vaso-dilators of the buccal region in the thoracic sympathetic. With this view, they are content to examine the effects produced by excitation of the cervical sympathetic; but, as Cl. Bernard has said, it does not suffice to merely irritate a nerve to attribute to it a certain function; it is needful, also, to divide it and see whether in these new conditions its function persists in its integrity. This has been done by M. Laffont; he extirpated the superior cervical ganglion in a dog and resected the cervical vago-sympathetic on the same side. Twenty days later, he ob-

tained the same effects of vaso-dilatation in the bucco-labial region on the same side and that of the resected sympathetic, by exciting the two superior maxillary nerves.

The origin of the vaso-dilator nerves of this region is not, therefore, in the cervical sympathetic, as announced by MM. Dastre and Morat. There is, then, only a reflex action that has also been studied by M. Laffont.

He exposed the circle of Vieussens in a dog, the afferent branch of the inferior cervical ganglion, that of the superior cervical ganglion, and the occipito-atloidean space. Then he found that excitation of the circle of Vieussens and of the cervical sympathetic, caused bilateral redness of the bucco-labial region, only predominating on the side of the excitation when the current was strong.

Opening the occipito-atloid space, he hooked on through the posterior foramen lacerum, without injuring the medulla, to the glosso-pharyngeal, spinal, pneumogastric, and hypoglossal nerves, rupturing them in withdrawing the hook. Then exciting again the circle of Vieussens, he met with no more vaso-dilator effects, while the oculo-pupillary ones persisted, thus proving that the reflex arch being interrupted, the reflex failed to occur; but if, in these new conditions, the excitation is applied to the peripheral portion of the divided nerves, placing one electrode at the foramen lacerum and the other to the periphery, we obtain vaso-motor effects limited to the side excited.

*Conclusions.*—The results announced by MM. Dastre and Morat, correct as far as they go, have received from these observers an erroneous interpretation; they have not discovered the vaso-dilators or their origin, but only a new reflex action on these vaso-dilator nerves.

At the same session M. Mathias Duval presented, in the names of MM. Dastre and Morat, a note on the same subject. In the course of their experiments they had observed the effects of ablation of the superior cervical ganglion and section of its various branches, especially the principal intercarotidean filaments. These effects they had noted at various periods of time after the operation; four days, eight days and three weeks. Some survived two months.

Among the more interesting phenomena one was especially noted. They tore away in a dog the superior cervical ganglion, leaving the vagus. The animal recovered very quickly, and ate and acted naturally, even the evening after the operation. Eight

days later it was slightly curarized, and the vago-sympathetic was divided on the side of the former operation. The cephalic portion being irritated, the usual effects were not observed; the buccal vaso-dilatation, as was expected, did not occur. The remarkable fact, however, was that of a very beautiful reddening of the opposite side. If the ganglion was extirpated on the right side, the dilatation occurred on the left. To show the route by which this effect was produced, it was sufficient to cut the vago-sympathetic of the left side also, and then renew the excitation, and the vaso-motor flush occurred on neither side. This, MM. Dastre and Morat claim as a new proof, that the dilatation is due to the sympathetic, since, they say, this being cut, the vaso-motor phenomena cease on the side operated upon, and the crossed or reflex action on the other side also ceases when the sympathetic is cut on that side also.

It still remains to be explained why the phenomenon, lacking in the uninjured animal, appears after ablation of the ganglion. In any case, this zigzag reflex is very significant in point of view of our knowledge of the reflex routes in the medulla and cord. MM. Dastre and Morat offer the fact with the immediate conclusion it justifies, reserving its complete interpretation and its consequences.

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THE TERMINAL DISTRIBUTION OF THE NERVES IN THE UTERINE MUCOUS MEMBRANE.—Prof. Schröder, of Berlin, furnished Dr. Patenko with the freshly excised uteri of five women, and the latter has utilized this material for studying the nervous termination in the mucous membrane. Dr. Patenko states that in all these cases the operation was undertaken for primary causes, but the malignant disease never extended above the os internum; and the microscopical and minute appearance of the uterine mucous membrane was always perfectly normal. He employed chloride of gold and osmic acid in solutions having a strength of 0.01 per cent. to 0.5 per cent. Portions of the specimens were subsequently placed in 96 per cent. alcohol, and used for thin sections. Other preparations were made by tearing small bits of tissue in the solutions mentioned. He makes a provisional statement of the results of his examinations. By suitable manipulations he succeeded in isolating some of the uterine glands, and a beautiful reticulum of delicate non-medullated nerve fibres was seen in connection with the *membrana propria*.